

Patent claims

1. Pre-mix burner (1) for mixing combustion air (11) with fuel (13) to form a combustion gas mixture und subsequent combustion of the combustion gas mixture with a main burner (3) for the greater part of the combustion air (11) and a pilot burner (5) for stabilizing a leaner combustion in the main burner (3), with the pilot burner (5) being embodied as a pore burner with a combustion material (41) that has a fine-pore structure
2. Pre-mix burner (1) in accordance with Claim 1 in which the fine-pore structure is formed by the foaming of the combustion material (41).
3. Pre-mix burner (1) in accordance with Claim 1 or 2 in which the combustion material (41) is ceramic.
4. Pre-mix burner (1) in accordance with Claim 3 in which the combustion material (41) features Zirconium Oxide or Silicon Carbide.
5. Pre-mix burner (1) in accordance with Claim 1 or 2, in which the combustion material (41) is a Nickel or Cobalt based super alloy.
6. Pre-mix burner (1) in accordance with Claim 1 or 2 in which the combustion material (41) is a highly heat-resistant steel.
7. Pre-mix burner (1) in accordance with one of the previous claims and with a ring channel (7) for the combustion air (11) of the main burner (3) that surrounds the pilot burner (5).
8. Gas turbine (51), especially a stationary gas turbine (51), with a pre-mix burner (1) in accordance with one of the previous claims.
9. Gas turbine (51) in accordance with Claim 8 with a ring-shaped combustion chamber (55).

10. Method for operating a pre-mix burner (1) in which with a main burner (3) combustion air (11) is mixed with fuel (13) into a combustion gas mixture und subsequently the combustion gas mixture is burned, with combustion in the main burner (3) being stabilized by a
5 pilot burner (5) where a combustion reaction takes place in the pilot burner (5) with in a fine-pore combustion material (41).

11. Method in accordance with Claim 10 which is executed with a pre-mix burner (1) in accordance with one of the Claims 1 to 9.